



SEQUENCE LISTING

<110> Soe, Joseph  
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<120> Improved Method for Preparing Flour Doughs and Products Made From Such  
Doughs Using a Glycerol Oxidase

<130> 674509-2045.1

<140> US 10/040,394

<141> 2002-01-09

<150> US 09/402,664

<151> 1998-04-03

<150> PCT/DK98/00136

<151> 1998-04-03

<150> DK 0400/97

<151> 1997-04-09

<160> 22

<170> PatentIn version 3.1

<210> 1

<211> 25

<212> PRT

<213> Aspergillus tubingensis

<220>

<221> MISC\_FEATURE

<222> (22)..(22)

<223> "Xaa" can be any amino acid

<400> 1

Ser Val Ser Thr Ser Thr Leu Asp Glu Leu Gln Leu Phe Ala Gln Trp  
1 5 10 15

Ser Ala Ala Ala Tyr Xaa Ser Asn Asn  
20 25

<210> 2

<211> 7

<212> PRT

<213> Aspergillus tubingensis

<400> 2

Val His Thr Gly Phe Trp Lys  
1 5

<210> 3  
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<213> Aspergillus tubingensis

<400> 3

Ala Trp Glu Ser Ala Ala Asp Glu Leu Thr Ser Lys Ile Lys  
1 5 10

<210> 4  
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<220>  
<223> PCR primer used for PCR amplification of a fragment of the lipase  
gene

<220>  
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<222> (9)..(9)  
<223> "n" can be a or t/u or g or c

<220>  
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<222> (12)..(12)  
<223> "n" can be a or t/u or g or c

<220>  
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<223> "n" can be a or t/u or g or c

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ttccaraanc cngtrtgnac

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gene

<220>  
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<222> (6)..(6)  
<223> "n" can be a or t/u or g or c

<220>  
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<223> "n" can be a or t/u or g or c

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carytnttyg cncartgg 18

<210> 6  
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<213> Artificial Sequence

<220>  
<223> PCR primer used for PCR amplification of a fragment of the lipase gene

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gcvgchswyt cccavgc 17

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<211> 317  
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tccaacttga catgcacggc caacgcctgt ccatcagtcg aggaggccag taccacgatg 120  
ctgctggagt tcgacctgta tgctactcag atcgcacaca tagagcacag ctaattgaac 180  
aggacgaacg acttttggag gcacagccgg tttcctggcc gcggacaaca ccaacaagcg 240  
gctcgtggtc gccttcggg gaagcagcac gattgagaac tggattgcta atcytgactt 300  
catcctggra gataacg 317

<210> 8  
<211> 1045  
<212> DNA  
<213> Aspergillus tubingensis

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ccggcaccgc ttgctgtgcg gtagtagtgt gcccgatgtg agatggttgg atagcactga 120  
tgaaggggtga ataggtgtct cgacttcac gttggatgag ttgcaattgt tcgcgcaatg 180

gtctgccgca gcttattgct cgaataatat cgactcgaaa gactccaact tgacatgcac	240
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gtatgtcact cagatcgagc acatagagca cagctaattt gaacaggacg aacgactttg	360
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acgacctctg caccggctgc aagggtccata ctggtttctg gaaggcatgg gagtccgctg	540
ccgacgaact gacgagcaag atcaagtctg cgatgagcac gtattcgggc tataccctat	600
acttcaccgg gcacagtttg ggcggcgcat tggctacgct gggagcgaca gttctgcgaa	660
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aacagacagt caatagtaca cctatggatg tcctcgaatc ggaaactatg cgctggctga	780
gcatatcacc agtcagggat ctggggccaa cttccgtgtt acacacttga acgacatcgt	840
cccccggtg ccacccatgg actttggatt cagtcagcca agtccggaat actggatcac	900
cagtggcaat ggagccagtg tcacggcgctc ggatatcgaa gtcacgagg gaatcaattc	960
aacggcgggg aatgcaggcg aagcaacggt gagcgttgtg gctcacttgt ggtacttttt	1020
tgcgatttcc gagtgcctgc tataa	1045

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 <211> 297  
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 <213> *Aspergillus tubingensis*

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			20				25					30			

Thr	Leu	Asp	Glu	Leu	Gln	Leu	Phe	Ala	Gln	Trp	Ser	Ala	Ala	Ala	Tyr
		35					40					45			

Cys	Ser	Asn	Asn	Ile	Asp	Ser	Lys	Asp	Ser	Asn	Leu	Thr	Cys	Thr	Ala
	50						55				60				

Asn	Ala	Cys	Pro	Ser	Val	Glu	Glu	Ala	Ser	Thr	Thr	Met	Leu	Leu	Glu
65					70					75					80

Phe Asp Leu Thr Asn Asp Phe Gly Gly Thr Ala Gly Phe Leu Ala Ala  
85 90 95

Asp Asn Thr Asn Lys Arg Leu Val Val Ala Phe Arg Gly Ser Ser Thr  
100 105 110

Ile Glu Asn Trp Ile Ala Asn Leu Asp Phe Ile Leu Glu Asp Asn Asp  
115 120 125

Asp Leu Cys Thr Gly Cys Lys Val His Thr Gly Phe Trp Lys Ala Trp  
130 135 140

Glu Ser Ala Ala Asp Glu Leu Thr Ser Lys Ile Lys Ser Ala Met Ser  
145 150 155 160

Thr Tyr Ser Gly Tyr Thr Leu Tyr Phe Thr Gly His Ser Leu Gly Gly  
165 170 175

Ala Leu Ala Thr Leu Gly Ala Thr Val Leu Arg Asn Asp Gly Tyr Ser  
180 185 190

Val Glu Leu Tyr Thr Tyr Gly Cys Pro Arg Ile Gly Asn Tyr Ala Leu  
195 200 205

Ala Glu His Ile Thr Ser Gln Gly Ser Gly Ala Asn Phe Arg Val Thr  
210 215 220

His Leu Asn Asp Ile Val Pro Arg Val Pro Pro Met Asp Phe Gly Phe  
225 230 235 240

Ser Gln Pro Ser Pro Glu Tyr Trp Ile Thr Ser Gly Asn Gly Ala Ser  
245 250 255

Val Thr Ala Ser Asp Ile Glu Val Ile Glu Gly Ile Asn Ser Thr Ala  
260 265 270

Gly Asn Ala Gly Glu Ala Thr Val Ser Val Val Ala His Leu Trp Tyr  
275 280 285

Phe Phe Ala Ile Ser Glu Cys Leu Leu  
290 295

<210> 10  
<211> 392  
<212> PRT  
<213> Rhizopus delamar

<400> 10

Met Val Ser Phe Ile Ser Ile Ser Gln Gly Val Ser Leu Cys Leu Leu  
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Val Ser Ser Met Met Leu Gly Ser Ser Ala Val Pro Val Ser Gly Lys  
20 25 30

Ser Gly Ser Ser Asn Thr Ala Val Ser Ala Ser Asp Asn Ala Ala Leu  
35 40 45

Pro Pro Leu Ile Ser Ser Arg Cys Ala Pro Pro Ser Asn Lys Gly Ser  
50 55 60

Lys Ser Asp Leu Gln Ala Glu Pro Tyr Asn Met Gln Lys Asn Thr Glu  
65 70 75 80

Trp Tyr Glu Ser His Gly Gly Asn Leu Thr Ser Ile Gly Lys Arg Asp  
85 90 95

Asp Asn Leu Val Gly Gly Met Thr Leu Asp Leu Pro Ser Asp Ala Pro  
100 105 110

Pro Ile Ser Leu Ser Ser Ser Thr Asn Ser Ala Ser Asp Gly Gly Lys  
115 120 125

Val Val Ala Ala Thr Thr Ala Gln Ile Gln Glu Phe Thr Lys Tyr Ala  
130 135 140

Gly Ile Ala Ala Thr Ala Tyr Cys Arg Ser Val Val Pro Gly Asn Lys  
145 150 155 160

Trp Asp Cys Val Gln Cys Gln Lys Trp Val Pro Asp Gly Lys Ile Ile  
165 170 175

Thr Thr Phe Thr Ser Leu Leu Ser Asp Thr Asn Gly Tyr Val Leu Arg  
180 185 190

Ser Asp Lys Gln Lys Thr Ile Tyr Leu Val Phe Arg Gly Thr Asn Ser

195

200

205

Phe Arg Ser Ala Ile Thr Asp Ile Val Phe Asn Phe Ser Asp Tyr Lys  
 210 215 220

Pro Val Lys Gly Ala Lys Val His Ala Gly Phe Leu Ser Ser Tyr Glu  
 225 230 235 240

Gln Val Val Asn Asp Tyr Phe Pro Val Val Gln Glu Gln Leu Thr Ala  
 245 250 255

His Pro Thr Tyr Lys Val Ile Val Thr Gly His Ser Leu Gly Gly Ala  
 260 265 270

Gln Ala Leu Leu Ala Gly Met Asp Leu Tyr Gln Arg Glu Pro Arg Leu  
 275 280 285

Ser Pro Lys Asn Leu Ser Ile Phe Thr Val Gly Gly Pro Arg Val Gly  
 290 295 300

Asn Pro Thr Phe Ala Tyr Tyr Val Glu Ser Thr Gly Ile Pro Phe Gln  
 305 310 315 320

Arg Thr Val His Lys Arg Asp Ile Val Pro His Val Pro Pro Gln Ser  
 325 330 335

Phe Gly Phe Leu His Pro Gly Val Glu Ser Trp Ile Lys Ser Gly Thr  
 340 345 350

Ser Asn Val Gln Ile Cys Thr Ser Glu Ile Glu Thr Lys Asp Cys Ser  
 355 360 365

Asn Ser Ile Val Pro Phe Thr Ser Ile Leu Asp His Leu Ser Tyr Phe  
 370 375 380

Asp Ile Asn Glu Gly Ser Cys Leu  
 385 390

<210> 11  
 <211> 363  
 <212> PRT  
 <213> Rhizomucor miehei

<400> 11

Met Val Leu Lys Gln Arg Ala Asn Tyr Leu Gly Phe Leu Ile Val Phe  
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Phe Thr Ala Phe Leu Val Glu Ala Val Pro Ile Lys Arg Gln Ser Asn  
20 25 30

Ser Thr Val Asp Ser Leu Pro Pro Leu Ile Pro Ser Arg Thr Ser Ala  
35 40 45

Pro Ser Ser Ser Pro Ser Thr Thr Asp Pro Glu Ala Pro Ala Met Ser  
50 55 60

Arg Asn Gly Pro Leu Pro Ser Asp Val Glu Thr Lys Tyr Gly Met Ala  
65 70 75 80

Leu Asn Ala Thr Ser Tyr Pro Asp Ser Val Val Gln Ala Met Ser Ile  
85 90 95

Asp Gly Gly Ile Arg Ala Ala Thr Ser Gln Glu Ile Asn Glu Leu Thr  
100 105 110

Tyr Tyr Thr Thr Leu Ser Ala Asn Ser Tyr Cys Arg Thr Val Ile Pro  
115 120 125

Gly Ala Thr Trp Asp Cys Ile His Cys Asp Ala Thr Glu Asp Leu Lys  
130 135 140

Ile Ile Lys Thr Trp Ser Thr Leu Ile Tyr Asp Thr Asn Ala Met Val  
145 150 155 160

Ala Arg Gly Asp Ser Glu Lys Thr Ile Tyr Ile Val Phe Arg Gly Ser  
165 170 175

Ser Ser Ile Arg Asn Trp Ile Ala Asp Leu Thr Phe Val Pro Val Ser  
180 185 190

Tyr Pro Pro Val Ser Gly Thr Lys Val His Lys Gly Phe Leu Asp Ser  
195 200 205

Tyr Gly Glu Val Gln Asn Glu Leu Val Ala Thr Val Leu Asp Gln Phe  
210 215 220



Lys Gln Tyr Pro Ser Tyr Lys Val Ala Val Thr Gly His Ser Leu Gly  
225 230 235 240

Gly Ala Thr Ala Leu Leu Cys Ala Leu Asp Leu Tyr Gln Arg Glu Glu  
245 250 255

Gly Leu Ser Ser Ser Asn Leu Phe Leu Tyr Thr Gln Gly Gln Pro Arg  
260 265 270

Val Gly Asp Pro Ala Phe Ala Asn Tyr Val Val Ser Thr Gly Ile Pro  
275 280 285

Tyr Arg Arg Thr Val Asn Glu Arg Asp Ile Val Pro His Leu Pro Pro  
290 295 300

Ala Ala Phe Gly Phe Leu His Ala Gly Glu Glu Tyr Trp Ile Thr Asp  
305 310 315 320

Asn Ser Pro Glu Thr Val Gln Val Cys Thr Ser Asp Leu Glu Thr Ser  
325 330 335

Asp Cys Ser Asn Ser Ile Val Pro Phe Thr Ser Val Leu Asp His Leu  
340 345 350

Ser Tyr Phe Gly Ile Asn Thr Gly Leu Cys Thr  
355 360

<210> 12  
<211> 305  
<212> PRT  
<213> Penicillium camemberti

<400> 12

Met Arg Leu Ser Phe Phe Thr Ala Leu Ser Ala Val Ala Ser Leu Gly  
1 5 10 15

Tyr Ala Leu Pro Gly Lys Leu Gln Ser Arg Asp Val Ser Thr Ser Glu  
20 25 30

Leu Asp Gln Phe Glu Phe Trp Val Gln Tyr Ala Ala Ala Ser Tyr Tyr  
35 40 45

Glu Ala Asp Tyr Thr Ala Gln Val Gly Asp Lys Leu Ser Cys Ser Lys  
50 55 60

Gly Asn Cys Pro Glu Val Glu Ala Thr Gly Ala Thr Val Ser Tyr Asp  
65 70 75 80

Phe Ser Asp Ser Thr Ile Thr Asp Thr Ala Gly Tyr Ile Ala Val Asp  
85 90 95

His Thr Asn Ser Ala Val Val Leu Ala Phe Arg Gly Ser Tyr Ser Val  
100 105 110

Arg Asn Trp Val Ala Asp Ala Thr Phe Val His Thr Asn Pro Gly Leu  
115 120 125

Cys Asp Gly Cys Leu Ala Glu Leu Gly Phe Trp Ser Ser Trp Lys Leu  
130 135 140

Val Arg Asp Asp Ile Ile Lys Glu Leu Lys Glu Val Val Ala Gln Asn  
145 150 155 160

Pro Asn Tyr Glu Leu Val Val Val Gly His Ser Leu Gly Ala Ala Val  
165 170 175

Ala Thr Leu Ala Ala Thr Asp Leu Arg Gly Lys Gly Tyr Pro Ser Ala  
180 185 190

Lys Leu Tyr Ala Tyr Ala Ser Pro Arg Val Gly Asn Ala Ala Leu Ala  
195 200 205

Lys Tyr Ile Thr Ala Gln Gly Asn Asn Phe Arg Phe Thr His Thr Asn  
210 215 220

Asp Pro Val Pro Lys Leu Pro Leu Leu Ser Met Gly Tyr Val His Val  
225 230 235 240

Ser Pro Glu Tyr Trp Ile Thr Ser Pro Asn Asn Ala Thr Val Ser Thr  
245 250 255

Ser Asp Ile Lys Val Ile Asp Gly Asp Val Ser Phe Asp Gly Asn Thr  
260 265 270

Gly Thr Gly Leu Pro Leu Leu Thr Asp Phe Glu Ala His Ile Trp Tyr  
275 280 285

Phe Val Gln Val Asp Ala Gly Lys Gly Pro Gly Leu Pro Phe Lys Arg  
 290 295 300

Val  
 305

<210> 13  
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 <212> DNA  
 <213> Aspergillus tubingensis

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 <222> (10)..(10)  
 <223> "n" can be a or g or c or t/u

<220>  
 <221> CDS  
 <222> (18)..(329)  
 <223>

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 taccgggggn tccgatt cag ttg ttc gcg caa tgg tct gcc gca gct tat 50  
 Gln Leu Phe Ala Gln Trp Ser Ala Ala Ala Tyr  
 1 5 10  
 tgc tcg aat aat atc gac tcg aaa gav tcc aac ttg aca tgc acg gcc 98  
 Cys Ser Asn Asn Ile Asp Ser Lys Xaa Ser Asn Leu Thr Cys Thr Ala  
 15 20 25  
 aac gcc tgt cca tca gtc gag gag gcc agt acc acg atg ctg ctg gag 146  
 Asn Ala Cys Pro Ser Val Glu Glu Ala Ser Thr Thr Met Leu Leu Glu  
 30 35 40  
 ttc gac ctg tat gtc act cag atc gca gac ata gag cac agc taa ttg 194  
 Phe Asp Leu Tyr Val Thr Gln Ile Ala Asp Ile Glu His Ser Leu  
 45 50 55  
 aac agg acg aac gac ttt tgg agg cac agc cgg ttt cct ggc cgc gga 242  
 Asn Arg Thr Asn Asp Phe Trp Arg His Ser Arg Phe Pro Gly Arg Gly  
 60 65 70  
 caa cac caa caa gcg gct cgt ggt cgc ctt ccg ggg aag cag cac gat 290  
 Gln His Gln Gln Ala Ala Arg Gly Arg Leu Pro Gly Lys Gln His Asp  
 75 80 85 90  
 tga gaa ctg gat tgc taa tcy tga ctt cat cct ggr aga taacg 334  
 Glu Leu Asp Cys Xaa Leu His Pro Xaa Arg  
 95 100

<210> 14

<211> 57  
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<213> Aspergillus tubingensis

<220>  
<221> misc\_feature  
<222> (20)..(20)  
<223> The 'Xaa' at location 20 stands for Glu, or Asp.

<220>  
<221> misc\_feature  
<222> (10)..(10)  
<223> "n" can be a or g or c or t/u

<400> 14

Gln Leu Phe Ala Gln Trp Ser Ala Ala Tyr Cys Ser Asn Asn Ile  
1 5 10 15

Asp Ser Lys Xaa Ser Asn Leu Thr Cys Thr Ala Asn Ala Cys Pro Ser  
20 25 30

Val Glu Glu Ala Ser Thr Thr Met Leu Leu Glu Phe Asp Leu Tyr Val  
35 40 45

Thr Gln Ile Ala Asp Ile Glu His Ser  
50 55

<210> 15  
<211> 33  
<212> PRT  
<213> Aspergillus tubingensis

<220>  
<221> misc\_feature  
<222> (10)..(10)  
<223> "n" can be a or g or c or t/u

<400> 15

Leu Asn Arg Thr Asn Asp Phe Trp Arg His Ser Arg Phe Pro Gly Arg  
1 5 10 15

Gly Gln His Gln Gln Ala Ala Arg Gly Arg Leu Pro Gly Lys Gln His  
20 25 30

Asp

<210> 16

<211> 4  
<212> PRT  
<213> Aspergillus tubingensis

<220>  
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<222> (10)..(10)  
<223> "n" can be a or g or c or t/u

<400> 16

Glu Leu Asp Cys  
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<210> 17  
<211> 5  
<212> PRT  
<213> Aspergillus tubingensis

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<223> The 'Xaa' at location 4 stands for Gly.

<220>  
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<222> (10)..(10)  
<223> "n" can be a or g or c or t/u

<400> 17

Leu His Pro Xaa Arg  
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<210> 18  
<211> 1833  
<212> DNA  
<213> Aspergillus tubingensis

<220>  
<221> misc\_feature  
<222> (3)..(3)  
<223> n can be a or g or c or t/u

<220>  
<221> exon  
<222> (372)..(453)  
<223>

<220>  
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<222> (506)..(672)  
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 <222> (719)..(1054)  
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 Met Phe Ser Gly Arg Phe Gly Val Leu Leu Thr Ala Leu  
 1 5 10  
 gct gcg ctg ggt gct gcc gcg ccg gca ccg ctt gct gtg cgg a 453  
 Ala Ala Leu Gly Ala Ala Ala Pro Ala Pro Leu Ala Val Arg  
 15 20 25  
 gtaggtgtgc ccgatgtgag atggttggat agcactgatg aagggtgaat ag gt gtc 510  
 Ser Val  
 tcg act tcc acg ttg gat gag ttg caa ttg ttc gcg caa tgg tct gcc 558  
 Ser Thr Ser Thr Leu Asp Glu Leu Gln Leu Phe Ala Gln Trp Ser Ala  
 30 35 40 45  
 gca gct tat tgc tcg aat aat atc gac tcg aaa gac tcc aac ttg aca 606  
 Ala Ala Tyr Cys Ser Asn Asn Ile Asp Ser Lys Asp Ser Asn Leu Thr  
 50 55 60  
 tgc acg gcc aac gcc tgt cca tca gtc gag gag gcc agt acc acg atg 654  
 Cys Thr Ala Asn Ala Cys Pro Ser Val Glu Glu Ala Ser Thr Thr Met  
 65 70 75  
 ctg ctg gag ttc gac ctg tatgtcactc agatcgcaga catagagcac 702  
 Leu Leu Glu Phe Asp Leu  
 80  
 agctaatttg aacagg acg aac gac ttt gga ggc aca gcc ggt ttc ctg gcc 754  
 Thr Asn Asp Phe Gly Gly Thr Ala Gly Phe Leu Ala

gcg gac aac acc aac aag cgg ctc gtg gtc gcc ttc cgg gga agc agc	802
Ala Asp Asn Thr Asn Lys Arg Leu Val Val Ala Phe Arg Gly Ser Ser	
100 105 110	
acg att gag aac tgg att gct aat ctt gac ttc atc ctg gaa gat aac	850
Thr Ile Glu Asn Trp Ile Ala Asn Leu Asp Phe Ile Leu Glu Asp Asn	
115 120 125	
gac gac ctc tgc acc ggc tgc aag gtc cat act ggt ttc tgg aag gca	898
Asp Asp Leu Cys Thr Gly Cys Lys Val His Thr Gly Phe Trp Lys Ala	
130 135 140	
tgg gag tcc gct gcc gac gaa ctg acg agc aag atc aag tct gcg atg	946
Trp Glu Ser Ala Ala Asp Glu Leu Thr Ser Lys Ile Lys Ser Ala Met	
145 150 155	
agc acg tat tgc ggc tat acc cta tac ttc acc ggg cac agt ttg ggc	994
Ser Thr Tyr Ser Gly Tyr Thr Leu Tyr Phe Thr Gly His Ser Leu Gly	
160 165 170 175	
ggc gca ttg gct acg ctg gga gcg aca gtt ctg cga aat gac gga tat	1042
Gly Ala Leu Ala Thr Leu Gly Ala Thr Val Leu Arg Asn Asp Gly Tyr	
180 185 190	
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Ser Val Glu Leu	
195	
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Tyr Thr Tyr Gly Cys Pro Arg Ile Gly Asn Tyr Ala	
200 205	
ctg gct gag cat atc acc agt cag gga tct ggg gcc aac ttc cgt gtt	1191
Leu Ala Glu His Ile Thr Ser Gln Gly Ser Gly Ala Asn Phe Arg Val	
210 215 220	
aca cac ttg aac gac atc gtc ccc cgg gtg cca ccc atg gac ttt gga	1239
Thr His Leu Asn Asp Ile Val Pro Arg Val Pro Pro Met Asp Phe Gly	
225 230 235	
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Phe Ser Gln Pro Ser Pro Glu Tyr Trp Ile Thr Ser Gly Asn Gly Ala	
240 245 250 255	
agt gtc acg gcg tgc gat atc gaa gtc atc gag gga atc aat tca acg	1335
Ser Val Thr Ala Ser Asp Ile Glu Val Ile Glu Gly Ile Asn Ser Thr	
260 265 270	
gcg gga aat gca ggc gaa gca acg gtg agc gtt gtg gct cac ttg tgg	1383
Ala Gly Asn Ala Gly Glu Ala Thr Val Ser Val Val Ala His Leu Trp	
275 280 285	
tac ttt ttt gcg att tcc gag tgc ctg cta taactagacc gactgtcaga	1433
Tyr Phe Phe Ala Ile Ser Glu Cys Leu Leu	
290 295	

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<210> 19  
 <211> 14  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> selected lipase 3 peptide

<400> 19

Ala Trp Glu Ser Ala Ala Asp Glu Leu Thr Ser Lys Ile Lys  
 1 5 10

<210> 20  
 <211> 25  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> N terminal lipase 3 peptide

<220>  
 <221> MISC\_FEATURE  
 <222> (22)..(22)  
 <223> "x" can be any amino acid

<400> 20

Ser Val Ser Thr Ser Thr Leu Asp Glu Leu Gln Leu Phe Ala Gln Trp  
 1 5 10 15

Ser Ala Ala Ala Tyr Xaa Ser Asn Asn  
 20 25

<210> 21  
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<213> Artificial Sequence

<220>

<223> portion of N-terminal lipase peptide used in synthesizing PCR  
primer C036

<400> 21

Gln Leu Phe Ala Gln Trp  
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<210> 22

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> portion of N-terminal lipase peptide used in synthesizing PCR  
primer C037

<400> 22

Ala Trp Glu Ser Ala Ala  
1 5